

4/18/91

TRANSLATION

Detergent Receiving and Dispensing Container for
Installation in a Washing Machine Drum

Detergent receiving and dispensing container that can be attached and detached from its mounting on a perforated base, specifically to the interior of a perforated washing machine drum furnished with carrier pins and fastening device by which the container can easily be mounted firmly and securely to a perforated base. This is achieved in that the container (1) can be attached and detached by means of two pins (20,21) running between the inside of a perforated base (28) and the opposite container wall (5), whereby one (21) is static and one (20) is moveable in the lengthwise direction of the container (1) against the pressure of a spring (25) from two recesses (27) on the perforated base (28).

Description

The invention concerns a detergent receiving and dispensing container that can be attached and detached from its mounting on a perforated base, specifically to the interior of a perforated washing machine drum.

A familiar type of detergent receiving and dispensing container particularly for liquid detergents is the one in the form of a so-called "dosing device", which performs its job during the washing cycles in the washing machine drum. These detergent containers are filled with liquid detergent before the wash and placed in the drum of the washing machine with the laundry. During the washing process these containers move freely in the washing machine drum. Direct application into the washing machine drum ensures even distribution of the detergent used during the washing cycle and prevents a loss of detergent in the drainage outlet system of the washing machine. The disadvantage of this method is that the detergent container moves freely and without control in the drum during the washing operation, which results in a disturbing noise.

The purpose of the invention is to create a removable container that can be easily mounted on the perforated base of the washing drum by means of a bolting and unbolting device.

With the use of a detergent receiving and dispensing container described above, this purpose is achieved by a container that has two pins anchored from the base

of the container to the inside surface of the perforated base, whereby one is static and one is movable in a longitudinal direction against the force of a spring allowing the container to be attached and detached from two recesses in the perforated base.

Hereby, a bolting and unbolting is achieved which brings about a firm connection of the container with the perforated base once it engages with a recess in the perforated base. With a movable base, specifically with a washing machine drum that is perforated and has carrier pins, the container can be anchored to the drum so that it is unaffected by the movement of the drum. In order to refill or exchange the container it is a simple operation to release it from the perforated base. The simple, but secure anchoring of the container to the perforated base is ensured by means of the two pins, of which one is static and the other movable. By a simple pushing or pulling movement, whether using a pressure or tension spring, after inserting the movable pin into the perforated base the distance between the two pins is adjusted so that the second static pin can be inserted into a recess in the perforated base. Hereby an uncomplicated and easily achieved mounting of the detergent receiving and dispensing container is accomplished and guaranteed.

An inexpensive and technically simple form of construction for the bolting and unbolting mechanism is created by installing the movable pin in a slot so that a cavity is formed to hold the spring and provide an anchoring point for the pin, as provided by this invention.

It is particularly expedient if, according to the invention, the length of the slot is from 2 to 3 cm.

In order to achieve a particularly easy and effective mounting as well as a particularly secure placement of the container on the inside of the washing machine drum, the invention provides that the pin projects from the centre axis of the container base and that the container base has an external contour that conforms to the radius of the washing machine drum.

In order to prevent scratching of the washing machine drum, it is preferable for the pins to have a plastic covering or be constructed of plastic or synthetic material.

A further advantageous form of construction of the invention provides that the container be attached and detached in the axial longitudinal direction of the washing machine drum.

The mounting and removal is thereby carried out not in the direction of rotation caused by the operation of the washing machine, but in the direction of the rotation axis of the drum.

The invention further distinguishes itself in that the pins have a diameter that conforms with the perforated drums of customary washing machines.

Finally, to facilitate the simultaneous dispensing of any combination of incompatible detergent components, the invention further provides that the container be divided by means of a separating wall into two chambers with openings for filling and dispensing (6,18,19).

The invention will be further explained by means of the following illustrative diagrams, which show in:

Fig. 1 - a side view of a detergent receiving container

Fig. 2 - a view of the front face of the detergent receiving container, and in

Fig. 3a to 3c - a representation of the bolting process

The detergent receiving and dispensing container (1) is constructed in a boat or trough shape, so that its side walls (2) and (3) run from the upper side (4) to the base (5) in such a way that an enlargement of the cross section in this direction is produced. In the upper side (4) of the container (1) is a large opening for filling and dispensing (6) over the interior of the container to the side walls (7) to (9). These side walls (7) to (9) run solely in the upper third of the container (1) and form a filling aid in the form of receptacle for the product. The container (1) can, as represented in the example, be divided into two separate chambers (12) and (13) by means of a separating wall (11). A division of the container (1) by providing two chambers (12) and (13), each with its own opening, facilitates specifically the simultaneous dispensing of a combination of incompatible detergent components, as for example in this case, liquid detergent and powdered bleach or stain remover. These can be placed in either chamber (12) or (13) of the container (1) and be placed in the machine together and added to the washing water. In the side of the container (1) grip indentations (14) and (15) are formed in the middle. In the front faces (16) and (17) the container has dispensing or outlet openings (18 and 19). The bottom surface (5) has an external contour that conforms with the radius of customary washing machine drums. In the middle of the bottom surface (5) two pins (20) and (21) arranged one behind the other in the longitudinal direction of the container project out.

Both pins are anchored to the inside of the container base (5). The pin (21) is provided with a static anchoring component (22) which is static and secured to the inside of the base surface (5). The pin (20) can be pushed in one direction, determined by a 2 to 3cm slot (26) in the base surface (5). The spring (25) is made preferably of stainless steel. The pins (20) and (21) can be made of metal with a covering of synthetic material or totally of synthetic material. The diameter of the pins (20) and (21) is at least somewhat smaller than the diameter of the opening (27) of the perforated base (28). It is preferable that the pins (20) and (21) have a diameter that will allow them to fit the smallest perforations of customary washing machine drums. The method of operation of the bolting and unbolting mechanism is represented in Diagrams 3a to 3c. In order to attach the container (1) to the inside surface of the drum, the pin (20) is first introduced into the opening (27) of the perforated base (28), as can be seen in Fig. 3a. The container (1) is then pushed in the direction of the arrow (29) against the pin (20) until the pin (21) lies flush over the opening (27), as shown in Fig. 3b. Finally, the container (1) is pressed down in the direction of the arrow (30) allowing the pin (27) to be released into the base (28). The pressure spring (25) ensure that the pins (20) and (21) are held firmly against the sides of the openings, or recesses (27). The same bolting mechanism can be performed with a tension spring. With gentle pushing in the direction (29) against the pressure of the spring and a corresponding lifting in the direction of the arrow (30), the container (1) can easily be released from the perforated base (28).

The diameter of the pins (20 and (21) and the maximum pushing capability of the pin (20) provided by the slot (26) are measured so that the container (1) can be installed in as many washing machine models as possible.

CLAIMS OF THE PATENT

1. Detergent receiving and dispensing container (1) with bolting and unbolting to be secured to a perforated base (28), specifically to the inside of a perforated washing machine drum, furnished with carrier pins, characterized in that the container (1) can be attached and detached by means of two pins (20,21), running between the inside of a perforated base (28) and the opposite container wall (5), whereby one (21) is static and one (20) is movable in the lengthwise direction of the container (1) against the pressure of a spring (25) in two recesses (27) on the perforated base (28).
2. Detergent container according to Claim 1, characterized in that the movable pin (20) is installed in a slot (26) so that a cavity is formed to hold the spring (25) and provide an anchoring point (23) for the pin (20).
3. Detergent holder according to one of the aforementioned claims, characterized in that the slot (26) has a length of 2 to 3cm.
4. Detergent container, according to one of the aforementioned claims, characterized in that the pins (20,21) project along the longitudinal axis of the container from the base of the container (5) and the container base (5) has an external contour that conforms to the radius of washing machine drums.
5. Detergent container, according to one of the aforementioned claims, characterized in that the pins consist of a covering of synthetic material or are made totally of synthetic material.
6. Detergent container, according to one of the aforementioned claims, characterized in that the container (1) is attachable and detachable from the washing machine drum in an axial longitudinal direction..
7. Detergent container, according to one of the aforementioned claims, characterized in that the pins (20,21) have a diameter that will fit the perforated drums of customary washing machine models.
8. Detergent container, according to one of the aforementioned claims, characterized in that the container (1) is divided into two chambers (12,13) with filling and dispensing openings (6,18,19) by means of a separating wall (11).

